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Mailed 11/13/2001

Decision 01-11-036 November 8, 2001

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) for a Certificate of Public Convenience and Necessity Authorizing the Construction of the Tri Valley 2002 Capacity Increase Project	Application 99-11-025 (Filed November 22, 1999)

ORDER CORRECTING CLERICAL ERRORS IN DECISION 01-10-029

It has come to the Commission's attention that the mailed version of Decision 01-10-029, which adopted a certificate of public convenience and necessity for PG&E and adopted certain mitigation measures as conditions of approval, contains two inadvertent clerical errors as follows.

First, the version mailed and placed in the Commission's formal files is missing portions of Appendix C, which contain the adopted mitigation measures. The complete Appendix C was included in the draft decision mailed to parties to this proceeding on September 26, 2001. In addition, the adopted decision published on the Commission's website contains a complete copy of Appendix C.[1]

Second, the version mailed and placed in the Commission's formal files is missing the entirety of Appendix D, which contain the adopted applicant

[1] See http://www.cpuc.ca.gov/WORD_PDF/FINAL_DECISION/10301.PDF.

proposed mitigation measures. The complete Appendix D was included in the draft decision mailed to parties to this proceeding on September 26, 2001. In addition, the adopted decision published on the Commission's website contains a complete copy of Appendix D, although it inadvertently appears as part of Appendix C.

Therefore, under the authority of Resolution A-4661,

IT IS ORDERED that:

1. Appendix C of Decision (D.) 01-10-029 is corrected to conform to the version attached to this order.

2. D.01-10-029 is corrected to incorporate Appendix D attached to today's order.

Dated November 8, 2001, at San Francisco, California.

/s/ WESLEY M. FRANKLIN

WESLEY M. FRANKLIN
Executive Director

APPENDIX C

Measure	Mitigation	Applicable Route or Substation
A-1	Apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.	All
A-2	Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.	All
A-3	Install sandbags or other erosion control measures to prevent silt runoff to public roadways.	All
A-4	Replant vegetation in disturbed areas within 30 days of completion of construction.	All
B-1	**a:** The initial step for this measure will be completion of a jurisdictional wetlands delineation of the Proposed transmission line route by a qualified biologist/wetland scientist prior to the initiation of any construction activities. Once the delineated wetlands have been verified by the U.S. Army Corps of Engineers (USACE), site-specific avoidance measures will be finalized. Avoidance will consist of flagging or fencing designated travel routes and construction areas to minimize impacts to wetland plant communities. Flagging will be used to designate travel routes and work areas in portions of the Project route that are not immediately adjacent to wetland plant communities. Protective fencing will be installed to designate travel routes in those portions of the Proposed transmission line route that are immediately adjacent to wetlands. Construction work areas within or immediately adjacent to wetlands will be located and fenced to avoid or minimize wetland impacts. **b:** Unavoidable temporary loss of wetland plant communities during construction shall be mitigated by restoration of the affected area to pre-construction conditions, as established in the jurisdictional wetland delineation. Where tower installation will permanently impact wetlands, compensatory mitigation shall be provided at a 2:1 ratio. Additional compensation will be required if the responsible agencies determine that restoration of temporary impacts has failed. A Restoration Plan/Compensatory Mitigation Plan shall be developed by PG&E Co. The plan shall be submitted to and approved by the USACE and Regional Water Quality Control Board (RWQCB) prior to the start of any construction activities. Implementation of the Restoration Plan/Compensatory Mitigation Plan shall be prior to or concurrent with project construction. The Plan will contain information for wetland mitigation location and wetland type to be created for any proposed off-site wetland creation, and details on soil preparation, seed collection, planting, maintenance, and monitoring for on-site restoration efforts and off-site wetland creation. **c:** Wetland restoration and creation shall be monitored by a qualified biologist for five years after mitigation site construction to assess progress and identify problems. Remediation actions shall be required if determined necessary by a qualified biologist to ensure the success of the restoration effort.	All
B-2	**a:** A qualified biologist will determine if any of the trees located within the vicinity of the proposed access roads and within the 100-foot disturbance radius surrounding the proposed tower locations (PG&E 1999) qualify as Heritage Trees as defined by the governing jurisdiction (either the City of Pleasanton or Alameda County). If it is determined that the proposed access roads, transmission line towers, or surrounding impact areas will impact any Heritage Trees (due to trimming, removal, etc.), the following avoidance measures will be taken: re-routing or relocating access roads or towers and flagging or fencing designated travel routes and construction areas to ensure avoidance of Heritage Trees (supplemental CEQA review may be required if reroute/relocation not previously assessed in this EIR); protective fencing will be installed at the dripline of any Heritage Tree that will be avoided but may be indirectly affected by construction activities; excavation, grading, leveling, and disposal or deposition of harmful materials will be prohibited inside the dripline fence. Attachment of wires, ropes, or signs to Heritage Trees shall also be prohibited. A qualified biologist or arborist shall verify compliance with these protective measures prior to initiation of construction activities near Heritage Trees. **b:** If Heritage Tree trimming or removal is unavoidable, the governing jurisdiction will be consulted. Further actions may require a permit that will include fees and/or replacement for affected trees. The City of Pleasanton Heritage Tree removal permit process requires payment of a fee in the amount of the appraised value of the tree in addition to 6:1 replacement with 24-inch boxed trees. Alameda County may require 1:1 tree replacement. These and other local jurisdictions, such as the City of Livermore, may apply their tree preservation ordinances on a case-by-case basis, so the replacement ratios and permit fees may vary. If the Proposed Project requires removal of any Heritage Trees, a Tree Replacement Plan will be prepared by a qualified forester, arborist, or restoration ecologist. This plan shall include: • Discussion of appropriate tree replacement ratios • Identification of suitable tree replacement locations within or adjacent to the affected plant community • Tree specifications, planting methodology, and timing of planting	All

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Measure	Mitigation	Applicable Route or Substation
	• Description of protective staking and caging measures • Description of five-year monitoring effort to measure replacement success • Success criteria and contingency measures The Tree Replacement Plan shall be submitted to and approved by the governing jurisdiction (either the City of Pleasanton or Alameda County) prior to the start of any construction activities. Implementation of the Tree Replacement Plan shall be concurrent with project construction.	
B-3	To reduce direct mortality impacts during construction, construction specifications will include the following conditions: • Vehicles will not exceed 10 mph on designated access roads or in the ROW • Litter or other debris that may attract animals will be removed from the project area; organic waste will be stored in enclosed receptacles, removed from the project site daily, and disposed of at a suitable waste facility • No pets will be allowed in the construction area, including access routes and staging areas • Construction crews will be monitored by a qualified biologist approved by the CPUC. • No weapons will be allowed in the project area, including air or conventional firearms, archery equipment, or knives.	All
B-4	PG&E Co. shall map and flag overland travel routes prior to construction and periodic maintenance during operation to identify and avoid impacts to sensitive habitats (i.e., Seasonal Wetland) and minimize total impact area. Vehicles shall follow only the pre-approved travel routes marked by flags, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. The mapping/flagging shall be reviewed by a CPUC-approved biologist prior to use of these routes for construction or maintenance to ensure adequate protection for sensitive plant communities.	All
B-5	**a:** Construction and maintenance activities shall be scheduled to avoid critical seasons. Raptor nests, vernal pools, riparian communities, sensitive habitats, and sensitive wildlife species will be avoided during specific seasons throughout the construction, operation, and maintenance of the Proposed Project. Avoidance periods and buffer distances for special status wildlife and plant species are shown in Table C.3-20 of the Draft EIR; this table shall be updated by PG&E prior to the start of construction to reflect any changes in special status species. These buffer distances and avoidance periods are subject to review and modification by CDFG and are in accordance with the Applicant Proposed Measures. **b**: Surveys conducted prior to any construction activities will be performed by qualified biologists to locate raptor nests and other resources in/or adjacent to the ROW and access road areas. The burrowing owl is a ground nesting bird known to occur in the project area. To avoid disturbance to ground nests, pre-construction surveys will be conducted to identify current locations of these resources and to flag allowable travel routes. If nests are observed, the avoidance period and buffer distances shown in Table C.3-20 of the Draft EIR (as updated in (a) above) will be observed. Surveys will be based on the CDFG survey protocol established for baseline surveys on the Proposed Project. **c:** Specific distances from resources (see Table C.3-20 and updates) will be maintained during construction, maintenance, and overflights. Designated existing roads will be used; if such roads are not present, flagged routes that have been surveyed by a qualified biologist will be used (as in Mitigation Measure B-4). **d:** Biological monitors as specified by CPUC will be present during construction to verify that no vehicular travel occurs outside flagged areas. These biological monitors will have the authority to terminate construction activities if any adverse effect on special status species is observed or anticipated.	All
B-6	Surveys for special status plant species shall be conducted by a qualified biologist along the Proposed South Area route at the proposed tower construction sites and along proposed access roads according to the protocol developed by the California Native Plant Society (Nelson 1994, 1986). These surveys shall be conducted prior to the initiation of any construction activities and coincide with the appropriate flowering period of the special status plant species with the potential to occur in the area (Table C.3-3, updated by PG&E prior to the start of construction to include species listed after completion of the EIR). Maps depicting the results of these surveys will be prepared and will include other recently mapped special status plant occurrences in the area to ensure that the full scope of rare plant habitat in the project route vicinity is delineated, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. Any special status plant occurrences located within 200 feet of the proposed tower construction sites and along the proposed access roads will be fenced prior to the start of any construction. Maps and reports, as well as proposed fence locations, shall be provided to and approved by the CPUC's	All

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Measure	Mitigation	Applicable Route or Substation
	biological monitor prior to the start of construction.	
B-7	Surveys for special status plant species shall be conducted prior to initiation of any construction and maintenance activities as described in Mitigation Measure **B-6**. Occurrences of special status plant species shall be flagged and overland travel shall be prohibited in these areas, including a recommended buffer distance (with a minimum of 25 feet) that construction-related activities shall occur from the identified individual or population. Travel routes which avoid special status plant species occurrences shall be flagged and mapped following approval consistent with Mitigation Measure **B-4**. Vehicles shall follow only the pre-approved travel routes marked by flags. Approval of survey reports and maps shall be consistent with Mitigation Measure **B-6**.	All
B-9	Pre-construction and pre-maintenance mapping and marking of proposed critical habitat areas shall be conducted in areas susceptible to construction and maintenance disturbance. Results of this delineation of critical habitat shall be submitted to the USFWS for review and approval. In the event that excavation activities occur in areas identified as California red-legged frog critical habitat, PG&E Co. will enter into formal consultation with the USFWS and implement avoidance and minimization measures outlined in a Biological Assessment prepared for the frog. Avoidance and minimization measures that the USFWS would likely require include the following: • Prior to ground-disturbing activities, a qualified biologist will provide environmental training to all project personnel, including recognition of the California red-legged frog and its habitat. Under this program, workers shall be informed about the presence of the frog and critical habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the federal Endangered Species Act. The biologist shall instruct all construction personnel regarding the life history of the frog, the importance of aquatic and upland habitats to the species, and the terms and conditions of the Biological Opinion issued by the USFWS. • A qualified biologist will be present during construction activities to monitor and determine the extent of ground-disturbing activities within 50 feet of suitable habitat. • All proposed California red-legged frog critical habitat that could be lost due to construction activities will be calculated and reported to the USFWS and CDFG. This acreage will be mitigated at a 3:1 ratio with the purchase of habitat credits or the purchase of offsite mitigation land.	All
B-12	Prior to construction, PG&E Co. shall use a qualified hydrologist to conduct groundwater flow studies to determine if the proposed underground line design will interfere with groundwater flows into the Springtown Wetlands Preserve. If the study determines that the underground transmission line and its associated trench and insulation will inhibit groundwater flows downslope, then a revised underground design that does not restrict flow will be required. Results of the studies will be provided to the Preserve Manager, CDFG and USFWS for review. The hydrologic assessment conducted for this environmental review has concluded it is unlikely that feasible undergrounding design can be developed (Section C.6.5.4, Impact 6-26). If no feasible design can be developed, implementation of the L1 Alternative would result in an unavoidable significant impact.	P3
C-1	PG&E Co. shall develop a Cultural Resources Treatment Plan (CRTP) for the project including procedures for protection and avoidance of Environmentally Sensitive Areas (ESAs), evaluation and treatment of the unexpected discovery of cultural resources including Native American burials; detail reporting requirements by the Project Archaeologist; discuss the curation of any cultural materials collected during the project; and, specify that archaeologists and other discipline specialists meet the Professional Qualifications Standards mandated by the California Office of Historic Preservation (OHP). Areas where known cultural resources are present shall be avoided during construction and operation/maintenance. If avoidance is not possible, specific protective measures (which shall be defined in the CRTP) shall be implemented to reduce the potential adverse impacts on cultural resources to a less-than-significant level. The CRTP shall be submitted to the CPUC for review and approval at least 30 days before the start of construction. The CRTP shall define construction procedures for areas near cultural sites. Wherever a tower, access road, equipment, etc. must be placed or accessed within 100 feet of a recorded, reported or known archaeological site eligible or potentially eligible for the CRHR, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment shall then be directed away from the ESA, and construction personnel shall be directed not to enter the ESA. (*Supersedes PG&E Co.'s Applicant Proposed Measure 9.1.*)	All
C-2	All construction personnel shall be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction. Prior to the initiation of construction or ground-disturbing activities, PG&E Co. shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials including Native American burials. The following issues shall be addressed in training or in preparation for construction: ▪ Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits. ▪ PG&E Co. shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential Environmentally Sensitive Areas (ESA) and anticipated	All

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	procedures to treat unexpected discoveries. ▪ Upon discovery of potential buried cultural materials, work in the immediate area of the find shall be halted and PG&E Co.'s archaeologist notified. Once the find has been identified, PG&E Co.'s archaeologist will make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be important according to CEQA.	
C-3	PG&E Co. shall inventory areas that were not surveyed for this EIR areas (as defined in Table C.4-3, and in the CRTP) for archaeological resources within proposed or existing corridors that could not be field-checked during EIR preparation due to property owner access constraints.	All
C-4	PG&E Co. shall implement archaeological monitoring by a Professional Archaeologist during subsurface construction disturbance at all locations identified in or adjacent with potential for significant buried cultural materials. These locations and their protection boundaries are listed in Table C.4-3, and shall be further defined in the CRTP.	All
C-5	PG&E Co. shall consult with and implement any site-specific cultural resources requirements mandated by the East Bay Regional Park District (EBRPD) and the California Department of Parks and Recreation for project areas within EBRPD and State of California parks. The results of these consultations shall be documented in the CRTP. The following parks may be affected: EBRPD Shadow Cliffs Regional Recreation Area; EBRPD Brushy Peak Preserve; EBRPD Black Diamond Mines Regional Preserve; EBRPD Morgan Territory Regional Preserve; Mount Diablo State Park (State of California); and Livermore Area Regional Parks District Sycamore Grove Park.	All
G-1	PG&E Co. should perform corrosivity testing on a site-specific basis for each support structure to be located within areas mapped as having high potential for corrosive soils by the USDA. Remediation measures or soil treatment procedures shall be implemented on a site-specific basis dependent upon the soil test results.	All
H-2	Excavated or disturbed soil shall be temporarily collected and placed in a controlled area surrounded by siltation fencing, hay bales, or a similarly effective erosion control technique that prevents the transport of sediment. The following provisions shall be documented to the CPUC and the Alameda County Water District. • The Storm Water Pollution Prevention Plan (SWPPP) shall be designed specifically for the hydrologic setting of the Proposed Project, which includes upland slopes, tributary creeks, and larger streams. • The staging of construction materials, equipment, and excavation spoils will be performed at least 100 feet outside of drainage channels or tributaries. • Where tower or substation construction activities occur near a creek or channel, sediment containment methods shall be performed at least 100 feet from the channel. • Upon completion of construction activities, excavated soil shall be replaced and graded to match the surroundings. • Surplus soil shall be transported from the site and disposed of appropriately.	All
H-3	The training program prescribed in Applicant Proposed Measure 8.2 shall not only describe general environmental concerns and procedures, but shall emphasize site-specific physical conditions to improve hazard prevention. For example, all flow paths to the nearest water bodies should be identified to workers and where hazardous materials specifically impact the site shall be identified. This provision shall be documented to the CPUC and the Alameda County Water District.	All
H-4	All refueling, lubrication, and other machinery or vehicular maintenance activities shall be performed at least 100 feet from any tributary or stream channel, or slough. Excess concrete shall be removed from tower foundations.	All
H-5	The staging of underground trench related construction materials, equipment, and excavation spoils will occur at least 100 feet outside of tributaries, creeks, or drainage channels.	All
H-6	Groundwater levels along the underground transmission line route shall be tested by drilling pilot borings. The location, distribution, or frequency of such tests shall be determined to give adequate representation of the conditions along the underground line. For example, along the route south of Arroyo Valle, tests could be conducted at four locations at 500-foot intervals. North of Arroyo Valle, one test could occur between the creek and the Vineyard Substation. In the other project areas (Dublin, North Livermore) suitable testing locations may also be determined (for example at 1,000 or 1,500 ft intervals). Locations where groundwater depth is less than 8 ft deep shall be identified prior to trenching activities and avoided, where possible, for the underground route. Avoidance is especially recommended where shallow groundwater flow direction is not parallel to the orientation of the underground line. Where avoidance is not possible, PG&E Co. shall consider construction in a shallower trench, depending upon structural requirements of the underground method and other practical concerns. PG&E Co. shall document results of test drilling in a letter report to the CPUC at least 30 days before construction starts and shall propose specific means to minimize the impact on groundwater if shallow groundwater is found. These measures must be approved by the CPUC prior to the start of construction of the	All

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Measure	Mitigation	Applicable Route or Substation
	underground segment.	
H-8	A spill prevention containment and countermeasure (SPCC) pond will be designed to collect all runoff from the substation (Vineyard, Dublin, San Ramon, North Livermore, Hartman Rd., or Tesla), including the proposed modifications. Surface drains and subsurface piping will convey runoff to the lined on-site SPCC pond. Water held in the SPCC pond shall be tested for contaminant levels prior to its release. Released water from the SPCC pond should pass through an oil/water separator. If contaminated water is allowed to evaporate on-site in the pond, then the pond lining shall be inspected and cleaned according to standard procedure prior to subsequent runoff events. SPCC ponds shall be designed specifically for site runoff conditions and how discharge enters receiving creeks or drainage channels.	Vineyard, North Livermore, and Dublin Substations
H-9	A site-specific Erosion Control Plan shall be written in coordination with the design and construction of the creek crossing near the Proposed Dublin Substation. This plan shall outline techniques and methods to reduce immediate erosional impacts to the stream's banks and bed during the construction process. Longer term considerations about preserving creek stability and channel form shall also be considered as part of the design process for this creek crossing. The site-specific erosion control plan and the design of the crossing shall be approved by the relevant local jurisdiction (Alameda County Flood Control and Water Conservation District, Zone 7 or the Contra Costa County Flood Control District).	Dublin Substation
H-10	Mitigation Measure H-10 directs a more thorough hydrologic and geomorphic analysis of the Proposed Dublin Substation and creek crossing and an evaluation of the magnitude of potential increases in runoff and channel erosion in the adjacent tributary channel. Analytical methods including hydrologic, hydraulic, and sediment transport modeling which are acceptable to the Contra Costa County Flood Control District shall be utilized to assess the significance of the substation on the 5, 10, 25, and 100-year runoff events. This site-specific information should then be used to evaluate, and modify if needed, the design of the substation, the on-site storm basin, and the creek crossing. If the analysis suggests potential creek instability, concepts and methods to provide additional stream stability shall be included in the final substation and creek crossing design that shall be reviewed and approved by the Flood Control District and the CPUC (including the analysis required by this Mitigation Measure).	Dublin Substation
H-11	Several groundwater test borings shall be made for the S2 route. PG&E Co. shall document results of test drilling in a letter repot to the CPUC and shall propose specific means to minimize the impact on groundwater if shallow groundwater is found. These measures must be approved by the CPUC prior to the start of construction of the underground segment.	S2
L-1	PG&E Co. or its construction contractor shall provide advance notice, between two and eight weeks prior to construction, by mail to all residents and property owners within 300 feet of the construction right-of-way. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than seven days occur, an additional notice shall be made, either in person or by mail. Notices shall provide tips on reducing noise intrusion, for example, by closing windows facing the planned construction. PG&E Co. shall also publish a notice of impending construction in local newspapers, stating when and where construction will occur.	All
L-2	PG&E Co. shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring residents about noise, dust, and other construction disturbance. PG&E Co. shall also establish a toll-free telephone number for receiving questions or complaints during construction and develop procedures for promptly responding to callers and recording the disposition of calls (procedures to be approved by the CPUC). Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public in accordance with Mitigation Measure L-1.	All
L-5	Construction of the underground alignment along Vineyard Avenue shall be coordinated with property owners to reduce impact to the grape harvest.	S2
L-12	If the planned elementary school is occupied prior to or during construction of the underground transmission line, construction activities within 1,000 feet of the school property's frontage on Vineyard Avenue shall be coordinated with the Pleasanton Unified School District. PG&E Co. shall submit such schedule to the CPUC no less than 30 days prior to start of construction activities.	S2
L-12a	If the S2 or S4 Alternatives are selected and if Old Vineyard Avenue is identified as the selected route, the transmission line shall be located as follows: 1. West from Highway 84, the underground route would be located in the firebreak road south of Vineyard, past Isabel Avenue to the western boundary of the Ruby Hill property (where the fire station is located). 2. West from the fire station, where the road narrows and New Vineyard diverges towards the northwest, the transmission line would be installed within the roadway. Where New and Old Vineyard converge and the road becomes a divided roadway, the transmission line would be installed within the roadway (with the final location to be determined in consultation with the City of Pleasanton as required in Mitigation Measure S-1).	S2
L-16	The North Livermore substation shall be relocated at least 500 feet to the north, outside of the May School Road Greenbelt, and shall be screened along the southern exposure by sufficient landscaping to render it inconspicuous as a manmade element, as viewed from the adjacent greenbelt. As required by 6.0. 131-D, PG&E Co. shall consult with the	North Livermore Substation

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	relevant local jurisdiction and make every reasonable effort to comply with local design standards. See also Mitigation Measure **L-18** regarding landscaping.	
L-17	PG&E Co. shall deed a 25-foot-wide easement across the North Livermore substation site frontage to the relevant entity for dedication as a multi-use trail corridor (applies with adoption of Mitigation Measure **L-16**, as well).	North Livermore Substation
L-18	PG&E Co. shall landscape the North Livermore substation with drought-tolerant, native plant species. Pursuant to 6.0 131-D, PG&E Co. shall consult with the relevant jurisdiction and make every reasonable effort to comply with local design standards.	North Livermore Substation
L-24	PG&E Co shall coordinate with affected agencies and proponents of proposed projects within or adjacent to the selected transmission route to minimize cumulative construction effects and avoid preclusion of other planned land uses to the maximum extent feasible. Said coordination shall take place during the final design and permitting stages of the transmission project and shall include, but not be limited to: ▪ Provision of transmission route and construction schedule to affected parties; ▪ Coordination of construction activities with other construction projects; ▪ Coordination of utility disruptions and road or lane closures.	All
L-25	The route of the easternmost 1,000 feet of the P3 Alternative (as modified in the Final EIR, Section B.5) shall be evaluated by PG&E Co. in conjunction with the adjacent landowners and the transition station shall be relocated to at least 500 feet from any residence, if feasible.	P3
PS-1	As part of the design and construction process, the Applicant shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.	All
PS-2	After energizing the transmission line, the Applicant shall respond to and document all radio/ television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by the Applicant, within 90 days, to the CPUC's Energy Division for resolution.	All
PS-3	As part of the siting and construction process, the Applicant shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). The Applicant shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, the Applicant shall notify in writing, subject to the review and approval of the CPUC Energy Division, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. The Applicant shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the Lead Agencies for review upon request. All unresolved disputes shall be deferred by the Applicant to the Lead Agencies for resolution. The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding, and guidelines for maintaining the safety of the ROW.	All
S-1	PG&E Co. shall consult with local jurisdictions and agencies responsible for all underground utilities in order to define the exact placement of the underground transmission line. In addition, PG&E Co. shall evaluate the potential for the underground transmission line to increase corrosion on existing pipelines. If this potential is determined to exist, PG&E Co. shall be responsible for installation of the required cathodic protection systems that would eliminate this risk. A letter documenting these consultations and their results, including concurrence by the affected jurisdiction(s) and other companies, shall be provided to the CPUC prior to the start of construction.	Underground portions of all routes (S2A/S2, P2, and P3)
T-1	Prior to the start of construction, PG&E Co. shall submit traffic control plans to the City of Pleasanton Public Works Department as part of the required traffic encroachment permits. Documentation of the approval of these plans and issuance of encroachment permits shall be provided to the CPUC prior to the start of construction on the underground portion of the project.	All
T-2	PG&E Co. shall restrict all necessary lane closures or obstructions on major roadways to off-peak period in urbanized areas to mitigate traffic congestion and delays that would be caused by lane closures during construction and by exploratory excavations. Lane closures must not occur between 6:00 and 9:30 a.m. and between 3:30 and 6:30 p.m., or as directed in writing by the affected public agency in the encroachment permit.	All
T-3	PG&E Co. shall develop and implement detailed Traffic Control Plans (TCPs) for the entire route at all locations where construction activities would interact with the existing transportation system. Input and approval from the responsible public agencies shall be obtained; copies of approval letters from each jurisdiction must be provided to the CPUC prior to the start of construction within that jurisdiction. The TCP shall define the use of flag persons, warning signs, lights, barricades, cones, etc. according to standard guidelines outlined in the Caltrans Traffic Manual, the Standard Specifications for Public Works Construction, and the Work Area Traffic Control Handbook (WATCH).	All

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T-4	If damage to roads and sidewalks occurs, PG&E Co. will coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by construction activities or construction vehicles shall be properly restored to ensure long-term protection of road surfaces. Care shall be taken to prevent damage to roadside drainage structures. Roadside drainage structures and road drainage features (e.g., rolling dips) shall be protected by regrading and reconstructing roads to drain properly. Said measures shall be incorporated into an access agreement/easement with the applicable governing agency prior to construction.	All
T-5	In conjunction with Mitigation Measure L-1, PG&E Co. shall notify affected parties of potential obstructions and make provisions for alternative access. Alternative access provisions and parking will be provided by PG&E Co. where feasible, with guide signs to inform the public. PG&E Co. shall give written notification to all landowners, tenants, business operators, and residents along the right-of-way of the construction schedule, and shall explain the exact location and duration of the transmission line and construction activities within each street (e.g., which lane/s will be blocked, at what times of day, and on what dates). PG&E Co. shall identify any potential obstructions to their access, and shall make alternative access provisions. The written notification shall include a toll-free telephone number for PG&E Co.'s public liaison (Mitigation Measure L-2) and shall encourage affected parties to discuss their concerns with PG&E Co. prior to the start of construction so individual problems and solutions can be identified. Alternative access provisions shall include PG&E Co. provided signage and alternate parking as provided and approved by local agencies.	All
T-6	PG&E Co. shall schedule construction on or adjacent to sensitive lands (e.g. hospitals, schools, residences, major employees, recreational areas) so that at least one access driveway is left unblocked during all business hours or hours of use. This scheduling shall be provided by PG&E Co. to the landowners or tenants so they can inform residents or customers. If access problems can be avoided by scheduling night construction in non-residential areas, this option should be considered.	All
T-7	PG&E Co. shall provide alternative pedestrian and bicycle access routes to avoid obstruction to pedestrian and bicycle circulation. Where existing pedestrian circulation routes or bike trails would be obstructed by transmission line construction, alternative access routes shall be developed and signed/marked appropriately, in conjunction with local agencies.	All
T-8	PG&E Co. shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by PG&E Co. of the proposed locations, nature, timing, and duration of any construction activities and advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans (T-3) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.	All
T-9	PG&E Co. shall coordinate with the Alameda Unified School District, the Pleasanton Unified School District, and the Livermore Valley Joint Unified School District at least one month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E Co. will also consult with the Livermore Amador Valley Transit Authority at least one month prior to construction to reduce potential interruptions to transit service in the project area.	All
T-12	If the S2 or S4 Alternatives are selected in conjunction with the New Vineyard Avenue route, PG&E Co. shall coordinate with the City of Pleasanton regarding the status of New Vineyard construction. If PG&E Co. believes that construction of New Vineyard is not sufficiently advanced to allow timely installation of the underground transmission line, PG&E Co. shall present documentation of this finding to the CPUC Energy Division, supported by documentation from the City, at least 60 days before the start of construction. If the CPUC Energy Division concurs that road construction could delay installation of the transmission line, the Old Vineyard Avenue shall be utilized instead, as envisioned in the Draft EIR (and as defined and conditioned in Final EIR Section C.2.3).	S2
V-1	If the S1, S2, or L2 Alternatives are selected, the underground portion of these routes should be extended southeast so the overhead/underground transition station is located immediately adjacent to the tap point in the Tesla-Newark corridor.	S2
V-3	If the proposed transmission line route to the Dublin Substation is selected, the visual impact of the line east of Milepost B14.5 shall be reduced by the following method: Install the line underground from the tap to the Contra Costa-Newark line to approximately Milepost B14.5 to eliminate an overhead crossing of the scenic valley and hills visible from Key Viewpoint 13 on Manning Road.	Proposed overhead line to Dublin Substation

(END OF APPENDIX C)

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Measure	APPLICANT PROPOSED MITIGATION MEASURES	Applicable Route or Substation
5.1	All new access roads will be gated and locked at fence lines.	All
5.2	All new access roads will have a "No Trespassing" sign posted at their entrance from a public roadway.	All
5.3	PG&E will pay restitution for relocating wind turbines and restricting wind farm operations that are currently located outside of PG&E's existing easement.	All
6.1	PG&E will keep construction-related activity as clean and inconspicuous as practical by generally storing building materials and equipment away from public view and removing construction debris promptly at regular levels	All
7.1	Any permanent loss of emergent wetlands resulting from the construction of access roads will be mitigated at a ratio of 1:1 through: • The purchase, restoration and protection of severely degraded wetlands in the vicinity of the project, • The creation of new emergent wetland from upland habitat within the vicinity of the project, and/or • The purchase from a mitigation bank of similar wetlands in the vicinity of the project.	All
7.2	Following the completion of all special status plant surveys, if it is determined that they occur within the project area, PG&E will modify the project to avoid impacts to the identified species. If identified special status plant species cannot be avoided, PG&E will: • Modify the project to minimize impacts to identified species • Acquire suitable habitat for identified species within the project vicinity • Develop a long term habitat enhancement plan (HEP) for identified species • Monitor the implementation of and the compliance with mitigation measures as outlined in the HEP.	All
7.3	PG&E will comply with the USFWS's "Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance," (USFWS, April 1, 1997). This document includes measures for preconstruction surveys and measures to minimize or eliminate mortality, harm, or harassment resulting from construction activity. All surveys and den excavations will be conducted by a qualified biologist. • Preconstruction/preactivity surveys will be conducted in the proposed active phase area no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities that are likely to impact the San Joaquin kit fox • Any potential den will be monitored for evidence of kit fox use by placing a tracking medium at den entrances for at least 3 consecutive nights. If a den is determined to be occupied, progressive plugging of the den may be employed to discourage use, and the den closed after it is determined to be unoccupied for a minimum of 3 consecutive nights (USFWS, 1997) • Potential dens that can be avoided during ground disturbing activities will have an exclusion zone established around them. The radius of the exclusion zone will be 100 feet for known dens and 50 feet for potential or atypical dens • Project-related vehicles will observe a 20-mph speed limit in project areas deemed to provide kit fox habitat (as per Construction and Operational Requirements, USFWS 1997), except as posted on county roads, and state and federal highways. Nighttime construction will be minimized. Vehicles will be limited to the designated project area to avoid kit fox habitat • The use of rodenticides and herbicides will be restricted by PG&E within project boundaries • To prevent accidental entrapment of kit fox during construction, all excavated holes or trenches will be covered at the end of each work day with plywood or similar materials. Before such holes are filled, they will be thoroughly inspected for trapped animals. In the event of a trapped animal, ramps or other structures will be installed immediately to allow the animal to escape, or the USFWS will be contacted for advice • PG&E will appoint a representative who will notify the USFWS and CDFG immediately in the event of an accidental death or injury to a kit fox during project-related activities, and a follow-up letter will be submitted within 3 working days of the accident • All temporary disturbance areas will be recontoured, if necessary, and revegetated to promote restoration of the area to pre-project conditions.	All
7.3(a)	All foraging and denning habitat that could be lost to construction activities will be calculated and reported to the USFWS and CDFG. This acreage will be mitigated at a 3:1 ratio with the purchase of habitat credits or the purchase of offsite mitigation land.	All

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Measure	APPLICANT PROPOSED MITIGATION MEASURES	Applicable Route or Substation
7.4	If occupied habitat is detected either within the right-of-way or 250 feet from the project-impact area, measures to avoid, minimize, or if necessary, mitigate impacts will be incorporated into the project. For the burrowing owl (known to be present), specific mitigation measures are suggested by CDFG (Burrowing Owl Consortium, 1993) and are discussed separately under Measure 4(a). All species and subspecies of the families listed in the Migratory Bird Treaty Act and their nests are protected. In addition, the golden eagle is protected under the Bald Eagle Protection Act. Take of individual animals will be avoided by conducting pre-construction surveys before the spring breeding season (and prior to start of construction). A survey of the construction area for potential avian species will be performed by a qualified biologist. It is expected that if construction occurs in suitable habitat before the onset of the breeding season, the construction disturbance would cause bird species to seek alternate sites for breeding and nest construction. The following measures will reduce the likelihood of impacting either sensitive habitat or directly impacting birds that could be nesting. ▪ To the extent possible, transmission line towers and access roads will avoid sensitive habitat. Flexibility exists in the exact placement of these features ▪ To the extent possible, the breeding season (February to September) will be avoided; however, if avoidance of active nests is not practicable, a construction-free buffer of at least 250 feet around the nest will be maintained to protect breeding birds ▪ A biological monitor will remain onsite to monitor the activity of the nesting birds during work to determine if work could continue without causing significant disturbance to the birds and to ensure implementation of and compliance with all avoidance and mitigation measures ▪ Wetland habitat will be spanned by the transmission line. At Arroyo del Valle, a dry bore will be made under the riverbed. These methods are included to avoid direct impacts to breeding habitat ▪ Should nest abandonment during breeding occur, the biological monitors will notify the appropriate resource agencies.	All
7.4(a)	A pre-construction survey will be conducted by a qualified biologist in all areas providing suitable habitat at least 30 days prior to construction according to the most recent Burrowing Owl Survey Protocol and Mitigation Guidelines (Burrowing Owl Consortium, 1993), and as suggested by CDFG. Surveys will cover grassland areas within a 500-foot buffer along the proposed transmission line routes and substations, and they will include areas designated for temporary laydown areas and access roads. The survey will include checking for the burrowing owl and owl sign. If owls are found to be using the site and avoidance is not feasible, a passive relocation effort (displacing the owls from the site) may be conducted as described below, subject to the approval of the CDFG. If occupied habitat is found on or adjacent to the Proposed Project features, measures to avoid, minimize, or mitigate impacts to burrowing owls will be incorporated into the project. They will include: ▪ Confirmed unoccupied burrows along the route may be collapsed ▪ Establish areas around the occupied burrows where no disturbance may occur. The sensitive areas shall extend 160 feet around the occupied burrows during the non-breeding season of September 1 through January 31, and shall extend 250 feet around occupied burrows during the breeding season from February 1 through August 31. A barrier fence will be erected during the breeding season around occupied burrows. If this avoidance method is not possible, passive relocation of the owls may occur but only during the non-breeding season. Passive relocation would include installing one-way doors on the entrances of burrows located within 250 feet of the Proposed Project features. The one-way doors shall be left in for 48 hours to ensure the owls have vacated the burrow. Owls would not be relocated during the breeding season. ▪ For each active burrow that will be excavated by project construction, one natural or artificial burrow will be provided outside of the 250-foot buffer. These alternate burrows will be monitored daily for 1 week to ensure the owls have successfully moved ▪ Burrows within the construction area shall be excavated under the supervision of a biological monitor using hand tools and then refilled to prevent reoccupation. If any burrowing owls are discovered during excavation, the excavation shall cease and the owl allowed to escape. Excavation may be completed when the biological monitor confirms that the burrow is empty ▪ All work will be coordinated with CDFG.	All
7.5	• Before the spring breeding season (and prior to start of construction), a survey of the construction area for potential sensitive habitat will be performed by a qualified biologist. It is expected that if construction occurs in suitable habitat before the onset of the breeding season, the construction disturbance would cause mammal species to seek alternate sites for breeding and denning • To the extent possible, sensitive habitat, including burrows, would be avoided by moving the location of the	All

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	transmission pole or the location of access roads. Some flexibility exists in the exact placement of these features along the route • A biological monitor will be present to ensure implementation of, and compliance with, these mitigation measures • A minimum buffer of at least 300 feet will be maintained around known dens of the American badger during the breeding season (March to September) to avoid direct loss of individuals • Vehicular speeds will be kept to 20 mph in sensitive wildlife habitat • If sensitive species are located prior to construction, PG&E will consult with the USFWS and CDFG to coordinate avoidance.	
7.6	Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been demonstrated. To avoid construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds and drainages in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. To minimize impacts to the ephemeral drainage at Milepost B13.18, appropriate construction techniques will be employed to minimize disturbance of stream channels and banks. If significant impacts occur to breeding or estivation habitat of the CRLF, PG&E will replace the habitat at a ratio negotiated with USFWS. The permanent loss of estivation habitat (upland impacts) due to construction of access roads and towers could be considered a significant impact by the USFWS and could require a replacement ratio of 1:1. However, this would vary depending on the abundance of suitable habitat in the project vicinity. In the unlikely event that construction activities occur in wetlands identified as suitable CRLF habitat, PG&E will enter into formal consultation with the USFWS and implement the avoidance and minimization measures outlined in a Biological Assessment prepared for the CRLF. Avoidance and minimization measures that the USFWS would likely require include the following: ▪ Prior to the initial site investigation and subsequent ground-disturbing activities, a qualified biologist would instruct all project personnel in environmental training, including recognition of CRLF and their habitat. Under this program, workers shall be informed about the presence of CRLF and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the federal Endangered Species Act. The biologist shall instruct all construction personnel regarding the life history of CRLF, the importance of marshes/wetlands to the frog, and the terms and conditions of the Biological Opinion ▪ A qualified biologist would be present during construction activities to monitor and determine the extent of potential ground-disturbing activities within 30 feet of suitable habitat ▪ Ground-disturbing activities within 30 feet of suitable habitat could only occur between May 1 and October 31 ▪ Between November 1 and April 30, ground-disturbing activities will not occur within 30 feet of suitable habitat ▪ Between May 1 and October 31, equipment will not be allowed within 30 feet of suitable habitat until a qualified biologist inspects the site to ensure the route was clear of CRLF ▪ Clearing of wetland vegetation will be confined to the minimal area necessary. Excavation activities will be accomplished by using equipment located on and operated from the side of the drainage with the least interference practicable for emergent vegetation ▪ If a CRLF is encountered during excavations, activities would cease until the frog was removed and relocated by a USFWS approved biologist. ▪ After completion of construction activities, any debris will be removed and, wherever feasible, disturbed areas will be restored to pre-project conditions. A restoration plan will be prepared for those sites where emergent vegetation is removed. The following elements will be included in the restoration plan: ▪ Prior to all construction activities, the site will be photographed to establish the pre-project condition ▪ After completion of construction activities, the site will be graded to the pre-existing contour or a contour that would improve the restoration potential of the site. ▪ The site will be replanted and hydro-seeded. Recommended plantings consist of wetland emergents, low-growing cover on or adjacent to banks, and upland plantings/hydro-seeding to encourage use by other wildlife. Replanting should involve the same species removed during construction. Plantings should be at least the same density and compositions as the pre-project level ▪ The restoration plan will identify success criteria for the restoration ▪ Habitat restoration will be monitored for 1 year from implementation. Monitoring reports documenting the restoration effort will be submitted to the USFWS upon completion of the restoration implementation and 1 year from restoration implementation. Monitoring reports will include photo documentation, the date restoration was completed, and the species used for plantings. Monitoring reports will also include recommendations for	All

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	remedial actions; approval from the USFWS, if necessary; and justification from release of any further monitoring, if requested.	
7.7	Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been demonstrated. To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds and drainages in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. If significant impacts occur to CTS estivation or breeding habitat, PG&E will replace the habitat at a ratio negotiated with CDFG. The permanent loss of estivation habitat usually requires a replacement ratio of 1:1; however, this may vary if estivation habitat is abundant in the general vicinity. In the unlikely event that excavation activities occur in wetlands identified as suitable CTS habitat, PG&E will enter into formal consultation with CDFG and USFWS and will implement avoidance and minimization measures. These measures could include the following: • Before construction begins, a qualified biologist will instruct all project personnel in environmental awareness training, including recognition of CTS and their habitat. Under this program, workers shall be informed about the presence of CTS and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat would be a violation under state law. The biologist will instruct all construction personnel regarding the life history of CTS, the importance of wetlands to the salamander • A qualified biologist will be present during construction activities to monitor and determine the extent of potential ground-disturbing activities within 30 feet of suitable habitat • Ground-disturbing activities within 30 feet of suitable habitat could only occur between May 1 and October 31 • Between November 1 and April 30, ground-disturbing activities will not occur within 200 feet of suitable habitat • Clearing of wetland vegetation will be confined to the minimal area necessary. Excavation activities will be accomplished by using equipment located on and operated from the side of the drainage with the least interference practicable for emergent vegetation • Before allowing equipment within 30 feet of suitable habitat, a qualified biologist will inspect the site to ensure the route is clear of CTS • If a CTS is encountered during excavations, activities would cease until the salamander was removed and relocated by a CDFG-approved biologist • After completion of construction activities, any construction debris will be removed; wherever feasible, disturbed areas shall be restored to pre-project conditions.	All
7.8	Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone will be established around all ponds in the project area which contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. This buffer zone will be a minimum of 30 feet during the dry season (May to October) and a minimum of 200 feet during the wet season (November to April).	All
7.9	Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area.	All
7.10	Prior to construction, surveys will be performed at aquatic sites that could potentially be impacted by project activities and for which presence or absence of the species has not yet been determined. To avoid potential construction impacts to aquatic habitats, a buffer zone will be established around all ponds and drainages in the project area which contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area. A 250-foot buffer will be maintained during the wet season (first substantial rainfall after October 31 until May 15), and a 100-foot buffer will be maintained during the remainder of the year. Construction monitoring will be done at each Seasonal Wetland with the potential to support listed shrimp. Monitoring of each site will occur during all construction activities within 250 feet of potential habitat. If the areas of potential shrimp habitat can be avoided, no additional mitigation measures are required. If the wetlands cannot be avoided, formal consultation with the USFWS would be required, and a Biological Assessment would need to be prepared.	All

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Measure	APPLICANT PROPOSED MITIGATION MEASURES	Applicable Route or Substation
7.11	To avoid potential construction impacts to aquatic habitats, a buffer zone of 30 feet during the dry season (May to October) and 200 feet during the wet season (November to April) will be established around all ponds in the project area that contain this species and could potentially be impacted by project activities. Buffers are work exclusion areas. If work must be conducted in buffer zones, the type and duration of the work will be negotiated with the appropriate resource agency prior to construction in the area.	All
7.13	The following measure will be implemented to reduce perching and predation opportunities: ▪ Tubular steel poles will be used extensively throughout the project area to minimize perching and predation opportunities ▪ Predation opportunities will be further reduced through the use of deterrents such as bird guards (Nixalite) to discourage perching of raptors at all tower locations within areas containing suitable habitat for burrowing owls. This deterrent consists of rows of spring-tempered nickel stainless-steel prongs with sharp points extending outward at all angles, except where affixed, on potential perches on new poles.	All
8.1	An erosion control and sediment transport control plan will be submitted to Alameda County and Contra Costa County along with grading permit applications. This plan will be prepared in accordance with the standards provided in the Manual of Erosion and Sedimentation Control Measures (ABAG, 1981) and in compliance with practices recommended by the Natural Resources Conservation Service. Implementation of the plan will help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan will designate BMPs that will be adhered to during construction activities. Erosion minimizing efforts such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), vehicle mats in wet areas, and retention/settlement ponds will be installed before extensive clearing and grading begins. Mulching, seeding, or other suitable stabilization measures will be used to protect exposed areas during construction activities. Revegetation plans, the design and location of retention ponds, and grading plans will be submitted to the CDFG for review in the event of construction near waterways. The plan will incorporate stipulations of the Alameda County grading erosion and sediment control ordinance, which requires that "trenching and grading associated with the construction and installation of underground pipelines be backfilled and the surface restored to its original condition, including reseeding or otherwise restoring vegetation on all disturbed slopes exceeding 2 percent," as soon as possible after such grading work is completed. Non-hazardous trench spoils from the underground transmission line will be stockpiled and used to backfill the trench where the material has appropriate thermal and geotechnical qualities. Open portions of the trench will be covered when not under active construction. Standard erosion and dust control practices will be used during construction according to Best Management Practices to protect biological and hydrological resources.	All
8.2	An environmental training program will be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, to all field personnel. A monitoring program will be implemented to ensure that the plans are followed throughout the period of construction.	All
8.3	PG&E Co. will prepare a Hazardous Substance Control and Emergency Response Plan which will include preparations for quick and safe cleanup of accidental spills. This plan will be submitted with the grading permit application. It will prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and will include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan will identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted.	All
8.4	Oil-absorbent material, tarps, and storage drums will be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from pole foundations during pouring, it will be directed to bermed areas adjacent to the borings where the water will infiltrate or evaporate and the concrete will remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it will be removed and transported to an approved landfill for disposal.	All
8.5	Soil sampling and potholing will be conducted before construction begins, and soil information will be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous materials are encountered in trench soils, work will be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of hazardous materials is required, they will be handled, transported, and disposed of in accordance with federal, state, and local regulations. Prior to initiating excavation activities at pole locations, soil borings will be advanced to ensure that groundwater will not be contacted. If groundwater is encountered within the depths of the proposed foundations, samples will be collected and submitted for laboratory analysis of metals and halogenated volatile organic compounds. If necessary, groundwater will be collected during construction, stored in Baker tanks, and disposed of in accordance with state and local regulations. Appropriate personal protective equipment will be used and soils management will be performed in accordance with state and county regulations.	All
8.6	If groundwater is encountered while excavating or constructing the underground transmission line, it will be checked for contaminants, and if none are found, will either be released to one of Kaiser Sand and Gravel's sediment ponds	S2/S2A and D1

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	(with approval), released to the City of Pleasanton's storm water drainage system (with approval), or contained in a tank and disposed of in accordance with all applicable federal, state, and local regulations.	
9.1	The best mitigation measure is to avoid impacts to cultural resources that may be located in the project area. PG&E will have an archaeologist demarcate cultural resource site boundaries on the ground to ensure that proposed project improvements do not impinge on the resource(s). Although there are presently no known archaeological sites that would be subject to potential construction impact, PG&E will ensure that wherever a tower or access road must be placed within 100 feet of a known archaeological site, the site will be flagged on the ground as an Environmentally Sensitive Area (ESA). Construction equipment would then be directed away from the ESA, and construction personnel would be directed to avoid entering the ESA. Prior to starting construction near any designated ESA, the construction crew would be informed of the resource values involved and of the regulatory protections afforded to the resources. The crew would also be informed of procedures relating to designated ESAs and cautioned not to drive into these areas or operate construction equipment on them. The crew would be cautioned not to collect artifacts and would be asked to inform their supervisor if cultural remains are uncovered. If any cultural remains are discovered, work at the site will be halted, and a qualified archaeologist will be called to determine the significance of the find.	All
10.1a	All personnel working on the project will be trained prior to starting construction on methods for minimizing air quality impacts during construction.	All
10.1b	Water all active construction areas, access roads, and staging areas at least twice daily.	All
10.1c	Cover all trucks hauling soil and other loose material, or require at least 2 feet of freeboard.	All
10.1d	Construction vehicles will use paved roads to access the construction site when possible.	All
10.1e	Limit vehicle speeds to 15 mph on unpaved roads.	All
10.1f	Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets.	All
10.1g	Apply soil stabilizers to inactive construction areas on an as-needed basis.	All
10.1h	Enclose, cover, water twice daily, or add soil binders to exposed stockpiles of soil and other excavated materials.	All
10.1j	Construction workers will carpool when possible.	All
10.1k	Vehicle idling time will be minimized.	All
10.1i	Replant vegetation in disturbed areas following the completion of construction.	All
11.1	PG&E Co. will maintain the maximum amount of travel lane capacity possible during non-construction periods and will provide flagger-control at all construction sites to manage traffic control and flows.	All
11.2	During construction, PG&E Co. will limit the work zone to a width that, at a minimum, maintains alternate one-way traffic flow past the construction zone. Alternatively, PG&E Co. will use detour signing, where available, on alternate access streets in the event that temporary street closure is required.	All
11.3	Required permits for temporary lane closures will be obtained from the City of Pleasanton, Contra Costa County, and Alameda County. Before obtaining roadway encroachment permits from the cities and counties, PG&E Co. will submit a Traffic Management Plan subject to the local jurisdiction's review and approval. As part of this plan, traffic control measures and construction vehicle access routes will be identified. Construction of the underground portion of the transmission line will occur between 8 a.m. and 5 p.m., Monday through Friday, unless PG&E Co. obtains special permission from the City of Pleasanton. All property owners and residents of streets affected by construction will be notified prior to the start of construction. Advance public notification will include postings of notices and appropriate signage of construction activity.	All
11.4	All construction activities will be coordinated with local law enforcement and fire protection agencies. Emergency service providers will be notified of the timing, location, and duration of construction activities.	All
11.5	PG&E Co. will consult with the Alameda, Pleasanton, and Livermore Valley Joint Unified School Districts at least 1 month prior to construction to coordinate construction activities adjacent to school bus stops. If necessary, school bus stops will be temporarily relocated or buses will be rerouted until construction in the vicinity is complete. PG&E Co. will also consult with the Livermore/Amador Valley Transit Authority at least 1 month prior to construction to reduce potential interruption of transit service on Bernal Avenue.	All
12.1a	Compressors and other small stationary equipment will be shielded with portable barriers.	All
12.1b	"Quiet" equipment (i.e., equipment that incorporates noise control elements into the design; compressors and jackhammers have "quiet" models) will be used during construction.	All
12.1c	Equipment exhaust stacks/vents will be directed away from buildings.	All
12.1d	Truck traffic will be routed away from noise-sensitive areas where feasible.	All
12.1e	Temporary sound barriers or sound curtains will be employed if the other noise reduction methods are not effective or possible, or if sensitive receptors will be exposed to construction noise for more than 1 day.	All
13.1	PG&E Co. will perform design-level geotechnical studies to evaluate the potential for and effects of soft or loose soils, which will be over-excavated during construction and replaced with engineered backfill or other ground treatment. Where necessary, construction activities will be limited to the dry season. Incorporation of standard engineering	All

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	practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	
13.2	PG&E Co. will develop an Erosion Control Plan which will be implemented throughout the construction period. Erosion control measures will include avoiding disturbance of steep slopes, using drainage control, controlling vehicular traffic, implementing dust control, and revegetating disturbed areas following construction.	All
13.3	PG&E Co. will use appropriate design features and construction procedures to maintain stable slope configurations during construction. Construction activities will be suspended during and immediately following periods of heavy precipitation. Development of grading plans and construction procedures will address access roads, substations, transmission towers, and the stability of temporary and permanent cut, fill, and otherwise impacted slopes. A design-level geotechnical investigation will be performed to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures to limit ground deformation, and protect the public and workers' safety during trenching and excavating operations. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.4	PG&E Co. will contact a qualified paleontologist to examine and determine the significance of any fossils encountered during construction. If the find is deemed to have scientific value, the paleontologist and PG&E Co. will devise a plan to either avoid impacts or continue construction without disturbing the integrity of the find.	All
13.6	PG&E Co. will evaluate the potential for subsidence due to compaction from groundwater withdrawal, strong ground motions, and the presence of soft, loose compressible soils during design-level geotechnical investigations. The need to place additional fill or construct berms to reduce potential flooding from past subsidence will be evaluated and incorporated into design and construction plans. PG&E Co. will remove or rework near surface deposits likely to experience settlement prior to placing new fill. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.7	PG&E Co. will conduct a design-level geotechnical investigation to evaluate the potential for settlement of approved project facilities. The results of the investigation will be used to develop appropriate foundation and structural designs to accommodate expected settlements. Soils found to be potentially susceptible during the investigation may be excavated, removed and replaced with engineered fill. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.8	PG&E Co. will conduct design-level geotechnical studies to develop appropriate design features for locations where potential problems are known to exist. Appropriate design features may include excavation of problematic soils and replacement with engineered backfill, ground treatment processes for densification of soft or loose soils, direction of surface water and drainage away from foundation soils, and the use of deep foundations such as piers or piles. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.9	PG&E Co. will perform a design-level geotechnical survey to evaluate the potential for unstable slopes, landslides, mudflows, and debris flows along the approved routes. Facilities will be located away from steep hillsides, debris flow source areas, the mouths of steep sidehill drainages, and the mouths of canyons that drain steep terrain. Specially designed deep foundations may be used in areas of shallow sliding where unstable slopes cannot be avoided. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.10	PG&E Co. addressed the overhead crossings of four mapped faults with mitigation measures as follows: **Elk Ravine Fault:** Pre-Quaternary inactive fault; avoidance of mapped fault traces beneath transmission tower locations will avoid the hazard. **Greenville Fault:** Historically active fault; performance of geotechnical investigations at tower foundation sites to locate and avoid potential for surface fault rupture, design transmission lines to accommodate potential fault displacement. **Pleasanton Fault:** Holocene active fault; Proposed Project not located across or adjacent to fault. **Verona Fault:** Holocene active fault; performance of geotechnical investigations at tower foundation sites to locate and avoid potential for surface fault rupture, design transmission lines to accommodate potential fault displacement. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	All
13.11	Some types of substation equipment are very susceptible to damage from earthquakes. To address this problem, PG&E Co. in conjunction with other utilities throughout the United States and Canada, and equipment vendors and consultants, have revised IEEE 693, "Recommended Practices for Seismic Design of Substations." Within this document are equipment and voltage-specific seismic qualification requirements. These requirements are much more stringent than those in the Uniform Building Code. Qualification includes shake table testing and dynamic analysis. PG&E Co. will purchase equipment for the substation using the seismic qualification requirements in IEEE 693. When these requirements are followed, very little structural damage from levels approaching 1.0 g peak ground acceleration are anticipated. PG&E Co. will design all substation control buildings in accordance with the Uniform Building Code.	All
13.12	PG&E Co. will perform design-level geotechnical investigations to evaluate the liquefaction potential of soils underlying all substation, transition station, transmission tower, and underground sites. Analysis of existing data will	All

APPENDIX D

Measure	APPLICANT PROPOSED MITIGATION MEASURES	Applicable Route or Substation
	examine the possibility of liquefaction, and develop appropriate engineering design and construction measures including pile foundations, ground improvement of liquefiable zones by densification, flexible bus connections, and slack in underground cables to allow ground deformations without damage to structures. Incorporation of standard engineering practices as part of the project shall ensure that people or structures are not exposed to geological hazards.	

(END OF APPENDIX D)